## REMARKS

Applicants respectfully request reconsideration of the present application in view of the foregoing amendments and in view of the reasons that follow. Claims 1-4, 6, 9, and 10 have been amended. Claims 5 and 11-15 have been canceled. Claims 16-24 have been added. Claims 1-4, 6-10, and 16-24 are now pending in this application.

## I. Claim Rejections Under 35 U.S.C. § 102(b)

In section 3 of the Office Action, Claims 1, 2, 5-8, 10, 11, and 13-15 were rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by U.S. Patent Application No. 6,078,946 to Johnson (*Johnson*). Applicants respectfully traverse the rejection. Applicants have canceled Claims 5, 11, and 13-15 rendering their rejection moot. Applicants have further amended the claims to depend directly or indirectly from newly added independent Claim 16. Applicants respectfully submit that *Johnson* fails to teach, suggest, or describe all of the features recited in at least independent Claim 16.

Independent Claim 16 recites in part "calculating a route cost for each route by summing a link cost calculated for each link of the plurality of links."

*Johnson* describes "real time, parallel evaluation of the best path within the network using neural network principles." (Abstract). *Johnson* further states that "[s]election of a best path from the plurality of paths comprises application of fuzzy logic, using a threshold function to identify a best relative path value by providing an input to the function which is a combination of the attribute values of the elements within each path." (Abstract). *Johnson* states:

> In a network comprising a plurality of nodes and interconnecting pathways, each node and pathway is an object that is managed within the network. ..., or may be a system which involves selection of a pathway from a network of pathways for physical movement from a source to a destination. The objects of the network are assigned relative values, or attributes, and **one or more method which operates on the value of the attributes**, according to a network user's requirements, in a procedure known in object-oriented terminology as "encapsulation". .... Selection of a best pathway or series of pathways from the plurality of pathways comprises



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> application of fuzzy logic, using a threshold function to identify a best relative pathway value by providing an input to the function which is a combination of the attribute values of the elements within each pathway. The input to the function is the sum of weighted attribute values, where each attribute value is multiplied by a weight which is a relative value determined in accordance with the network user's priorities; the higher the priority, the greater the weight applied to that attribute. **Computation of the threshold function is performed for each pathway and the resulting values are compared to a pre-determined threshold value to determine if the threshold has been crossed**. If a single optimal pathway has not been identified during this step, the weights of the various attributes are adjusted in order of their priority; upward if the sum of the weighted values for each pathway has identified no pathways which cross the threshold and downward if multiple paths have crossed the threshold. The process is continued with increasingly smaller incremental changes in the weights until a single combination of elements provides a pathway value which crosses the threshold, indicating the best pathway for meeting the network user's criteria.

(Col. 3, line 40-col. 4, line 15; underlining and bolding added). *Johnson* further states:

> Based upon the network user's priorities, initial attribute weights are assigned (905) to indicate the order of preference of the attributes of the objects and input into the processor. The processor calculates a threshold value by first multiplying each of the neural attribute values by the initial attribute weights (906) stored in memory and summing the products (weighted attributes) of each to provide an input value, then performing a transfer function on the input value for each object (907). Each different object under evaluation will most likely have a different threshold due to their different neural attributes. The weight of the highest priority attribute is increased (908), the weighted attributes are summed and the threshold value determined in step 907 is subtracted to normalize to zero, and a transfer function is performed (909) on the result. The resulting outputs of the objects being evaluated are then compared to determine whether the corresponding threshold has been crossed over by only one of the several objects being compared (910). If not, the next highest priority attribute is addressed (911), and its weight is increased, the modified weighted attributes are summed, to provide an input value (repeating step 908) and the transfer function is performed (step 909) to again determine if crossover occurs by only one of the multiple

> objects being considered (step 910). Steps 908-911 are repeated until crossover of one of the objects occurs, at which time an output signal is generated by the processor identifying the selected object (step 912). As described above, but not shown in the flow chart, if no single object is identified as crossing over the threshold because more than one of the objects crosses over its threshold, the weights are adjusted downward, with the lowest priority weight being adjusted downward first, progressing from lowest to highest until the single object is identified.

(Col. 13, line 59-col. 14, line 24; underlining added). Thus, *Johnson* describes application of a transfer function to a summed product of weighted neural attribute values defined for an object (trail/link) in a network. The weights for the attribute values are adjusted up or down until the resulting outputs of the objects (trails/links) being evaluated result in only one object crossing a threshold. *Johnson*, however, fails to provide any teaching of at least "calculating a route cost for each route by summing a link cost calculated for each link of the plurality of links," as recited in Claim 16.

For at least these reasons, Applicants respectfully submit that *Johnson* fails to teach, suggest, or describe all of the elements of at least independent Claim 16. An anticipation rejection cannot be properly maintained where the cited reference does not teach each and every element of the claims. The remaining claims depend from Claim 16. Therefore, Applicants respectfully request withdrawal of the rejection of Claims 1, 2, 6-8, and 10.

## II. Claim Rejections Under 35 U.S.C. § 103(a)

In section 4 of the Office Action, Claims 9 and 12 were rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over *Johnson* in view of U.S. Patent Application No. 6,829,347 to Odiaka (*Odiaka*). Applicants have canceled Claim 12 rendering its rejection moot. Claim 9 has been amended to depend from new Claim 16. Applicants respectfully submit that *Johnson* is not properly combinable with *Odiaka*.

*Odiaka* describes "selecting a trail using a Constraint based routing technique in which at least one user-determined routing policy is used to bias input to a Dijkstra/Yen-K shortest path routing engine, so as to limit output by the routine engine to routes conforming with the user-determined routing policy." (Abstract). However, there is no motivation to

combine *Johnson* with *Odiaka* because *Odiaka* teaches away from the functionality described in *Johnson*. For example, *Odiaka* states:

> Conventional trail routing programs do not efficiently incorporate user preferences and/or desired routing profiles into the computation of the routes to eliminate the majority of unsuitable routes unless they are based on complex, for example genetic, algorithms. Such complex algorithms can incur extensive coding and, despite their complexity, often demonstrate a lack of versatility which creates implementation problems.

(Col. 1, lines 51-58; underlining added). *Odiaka* further states:

> Advantageously therefore, by considering the link usage threshold value and using this to modify the original cost of a link prior to running a routing algorithm, there is no need to provide a complex genetic code algorithm to take into account various user requirements of this nature.

(Col. 12, lines 37-60; underlining added). Thus, *Odiaka* specifically teaches away from the use of a complex genetic algorithm such as a neural network based algorithm as taught in *Johnson.*

Additionally, the combination of *Johnson* with *Odiaka* completely changes the principle of operation of *Johnson* which is specifically structured to determine a pathway based on use of a neural network algorithm. Inclusion of the teachings of *Odiaka* into *Johnson* completely eviscerates this function. Therefore, *Johnson* is not properly combinable with *Odiaka*.

An obviousness rejection cannot be properly maintained where the references used in the rejection are not properly combinable. Therefore, Applicants respectfully request allowance of new Claim 16 over the combination of *Johnson* and *Odiaka*. The remaining new claims, Claims 17-24, depend from Claim 16. Therefore, Applicants respectfully request allowance of Claims 17-24, and withdrawal of the rejection of Claim 9.

## III. Objection to Claims 3 and 4

In section 5 of the Office Action, Claims 3 and 4 were objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including

all of the limitations of the base claim and any intervening claims. Applicants thank the Examiner for noting the allowable subject matter. However, Applicants believe that new Claim 16, from which Claims 3 and 4 depend, are also allowable over the cited art as discussed above. Thus, Claims 3 and 4 have not been rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Applicants believe that the present application is in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by the credit card payment instructions in EFS-Web being incorrect or absent, resulting in a rejected or incorrect credit card transaction, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicant hereby petitions for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 19-0741.

Respectfully submitted,

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By ____________________

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